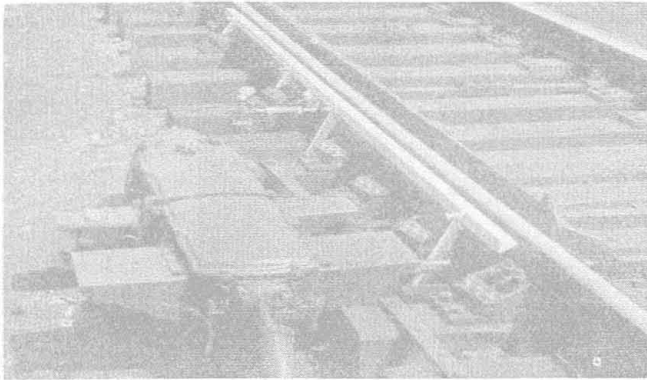


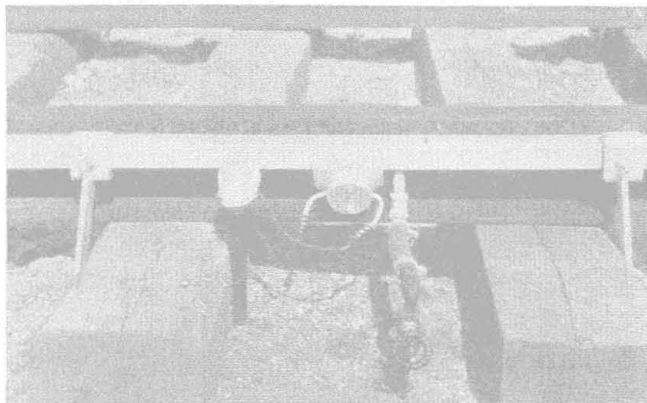
housing. Each igniter consumes 220 watts, making a total of 440 watts consumed by the igniters of both units for a switch. The igniter can be left turned on continuously, or it can be turned on for a few minutes



A typical installation of the new gas-burning switch heater

in starting the heater and then periodically switched on by the towerman to assure that all heaters are ignited and functioning properly. Each heater unit normally consumes about 75 cu. ft. of gas per hour, thus making the total consumption of gas for each switch about 150 cu. ft. per hour.

It is said that this heater maintains a temperature in



Close-up view of the burner, showing the igniter connection

the rail well above the melting point but not sufficiently high to affect the texture of the rail, and that a 1-ft. strip on each side of the rail is kept free of snow. It is also reported that practically no flame is visible and that consequently there is no interference with the visibility of low switch targets.

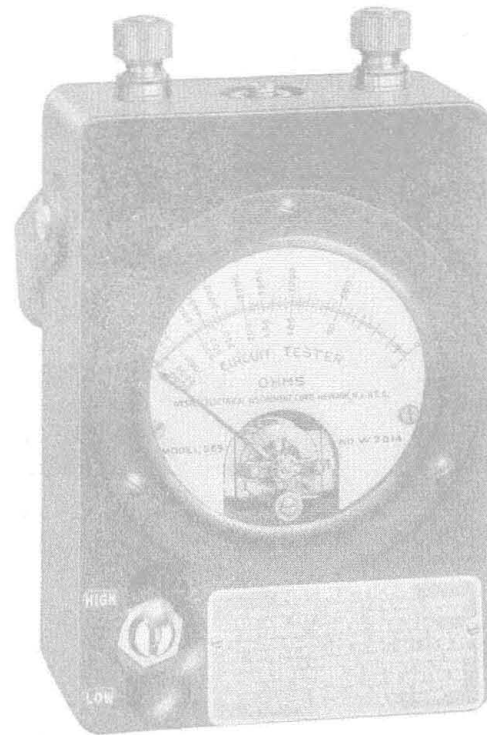
Weston Circuit Tester

THE Weston Electrical Instrument Corporation announces the introduction of the Model 563 circuit tester, used for checking resistance values and circuit continuity of many types of electrical apparatus, not only in the process of manufacture, but also in service and installation work.

This model is a compact, completely self-contained, portable instrument, with an accuracy within 2 per cent. Its equipment consists of a Weston Model 301, 3 $\frac{3}{4}$ -in. meter having two resistance ranges—5,000 and 50,000 ohms—mounted in a black Bakelite case with a Bakelite panel; a toggle switch for range selection; a self-contained 1.5-volt flashlight cell (Everready cell No. 935); a leather strap handle and a pair of 30-in. leads with test prods. The instrument is 5 $\frac{1}{2}$ in. high by 3 $\frac{5}{8}$

in. wide by 2 $\frac{7}{8}$ in. deep, and weighs approximately 2 lb.

A feature of this instrument is the voltage adjuster located at the top of the instrument case, which is used to compensate for changes in the voltage of the self-



This circuit tester has a wide range of usefulness in testing circuit continuity and resistance values of electrical apparatus. It is completely self-contained and weighs only 2 lb.

contained battery. To make this compensation it is necessary only to short-circuit the binding posts and adjust the pointer to the zero-ohm position on the scale by turning the adjusting screw.

New Type Rail Crossing

Uses Turntable Principle

THE Continuous Rail Crossing Corporation, Los Angeles, Cal., has developed a type of railway crossing which is designed to provide a continuous running rail for the route which is cleared for the crossing. Briefly, the continuous principle of the crossing is furnished by four turntables, one at each rail intersection of the crossing so that a flangeway or groove in the top of the turntable may be turned to coincide with either rail, depending on which route is to be used over the crossing.

The movement of the turntables is effected and controlled by the interlocking plant which directs the train movements over the crossing. All pipe lines, rods, bell cranks, etc., conform to standard interlocking practice. The position of the turntables for either route is checked by electric circuit controllers, as will be explained later.

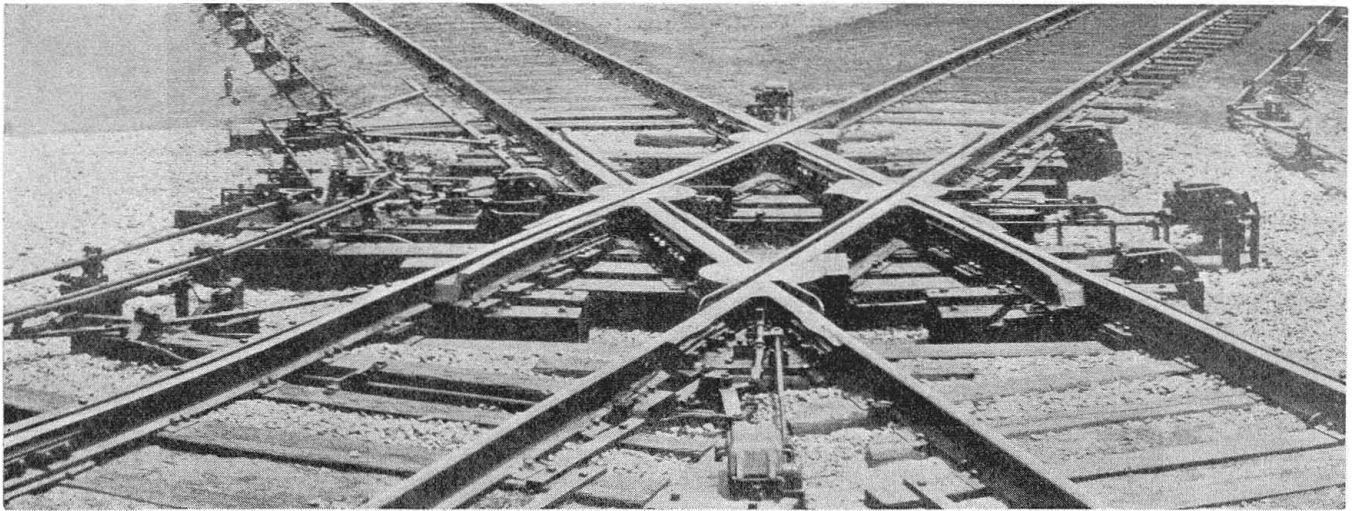
One of these crossings was installed at an intersection of the Southern Pacific and the Union Pacific at South Gate, Cal., about September 1. This crossing is of two-piece manganese-steel construction with circular wells to receive the turntables. The crossing is supported on four circular cast-steel pedestals, one of which is situated under each turntable and is provided with a circular opening in its top, through which the pivoting leg of the turntable extends downward to a connection with

the operating mechanism. The pedestals, in turn, are supported on heavy timbers.

The detail dimensions of these crossings vary with the crossing angle, and all dimensions given hereafter are for an angle of 36 deg. 52 min., which is the angle of the crossing at South Gate. The turntables, which

are in the circumference of each turntable when the turntable is in one position and is forced out of the groove when the turntable is rotated to the other position. Unless all four turntables are in the same position, the circuit to the control tower is not complete.

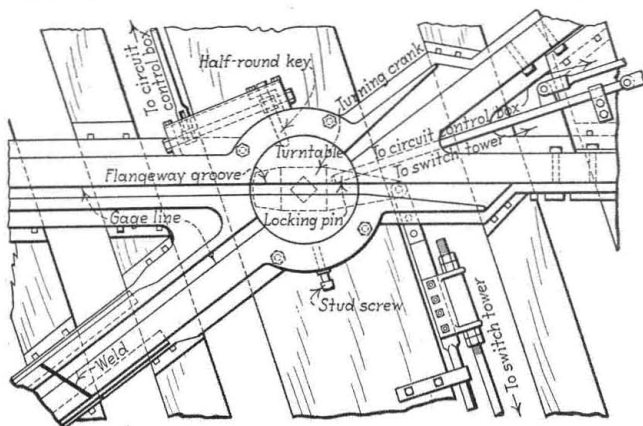
If a defect should occur in one of the turntables, an



A view of the installation of the new crossing at South Gate

are made from forged, heat-treated, chrome-vanadium steel, are 15.99 in. in diameter, 5 in. deep and have a pivoting leg $7\frac{3}{8}$ in. long. The lower end of the leg is $2\frac{1}{8}$ in. square for a length of $1\frac{5}{8}$ in. to receive a crank $14\frac{1}{2}$ in. long which is held in place by a 2-in. nut that is screwed on the lower threaded end of the leg. The outer end of the crank is connected to the pipe line by means of which the turntable is turned.

When aligned properly in either position, each turntable is locked in place by a $1\frac{1}{4}$ -in. locking pin that extends into one of two radial holes in its circumference.



Turntable and control assembly at one intersection

These holes are $3\frac{1}{2}$ in. deep and are so placed with respect to each other that one of the holes engages the stationary locking pin when the turntable is in either position. The locking pins are connected with and controlled from the tower through an independent system of piping. A connection is also made from each locking pin to a circuit control box, all four of which are connected in series so that the turntables must be locked before the interlocking signal shows a clear indication.

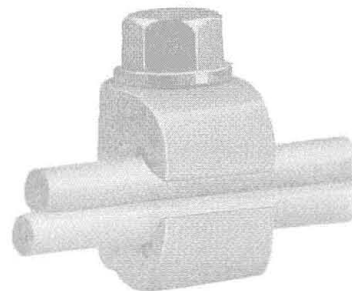
Another set of circuit control boxes assures that the turntables are all aligned in the proper direction before the signal is released. The direction of alignment of the turntables is transmitted to the circuit control boxes by half-round keys, one of which extends into a groove

emergency turntable having grooves to coincide with both sets of flangeways may be inserted in the well. The emergency turntable is, of course, not movable and is not connected to the control mechanism or circuit.

In order that the turntables may be locked in any position on the ground, a stud screw is provided in the casting at each turntable, which may be run inward until it bears firmly against the side of the turntable, thereby locking it securely in one position. In order to prevent the turntables from freezing during cold weather, an oblong hole with an outlet is cast in the crossing around the inside bottom edge of each turntable well, in which an electrical heating unit can be installed.

Fargo Solderless Connector

THE Fargo Manufacturing Company, Poughkeepsie, N. Y., announces the introduction of a new solderless connector which can be applied without being taken apart. The device consists of two vise-like jaws which are tightened by a hexagon cap screw. The jaws are V-shaped to prevent the connected wires from moving from the position in which they were originally clamped,



Application of the connector to two copper wires

and thus loosening the connection. The device is made of an alloy of copper, silicon and manganese; this alloy, it is claimed, is particularly well suited to the requirements of this type of connector. Four standard sizes are manufactured and each size is adjustable to a range of wire sizes.